

LYME DISEASE

I. IDENTIFICATION

- A. **CLINICAL DESCRIPTION:** A multisystemic disease caused by a tick-borne spirochete *Borrelia burgdorferi*. The illness is characterized by skin lesions, constitutional symptoms, intermittent oligoarthritis, cardiac conduction disturbances, and neurologic abnormalities, occurring alone or in varying combinations.
- B. **REPORTING CRITERIA:** Clinical diagnosis.
- C. **LABORATORY CRITERIA FOR CONFIRMATION:**
- Isolation of *B. burgdorferi* from a clinical specimen, **OR**
 - Demonstration of diagnostic IgM or IgG antibodies to *B. burgdorferi* in serum or CSF. A **two-step testing** approach using a sensitive enzyme immunoassay (EIA) or immunofluorescent assay (IFA) followed by Western Blot **is required**.
- D. **KENTUCKY CASE DEFINITION:** Physician-diagnosed erythema migrans ≥ 5 cm in diameter, **OR** at least one late stage manifestation **AND** laboratory confirmation of infection. (See complete case definition on back of the CDC Lyme Disease Report Form).

1. Erythema Migrans (EM)

For purposes of surveillance, EM is defined as a skin lesion that typically begins as a red macule or papule (at least 72 hours after exposure) and expands over a period of days or weeks to form a large round lesion, often with partial central clearing. A solitary lesion must reach at least 5 cm in size. Secondary lesions may also occur. Annular erythematous lesions occurring within several hours of a tick bite represent hypersensitivity reactions and do not qualify as EM. For most patients, the expanding EM lesion is accompanied by other acute symptoms, particularly fatigue, fever, headache, mild stiff neck, arthralgia, or myalgia. These symptoms are typically intermittent. The diagnosis of EM must be made by a physician. Laboratory confirmation is recommended for persons with no known exposure.

2. Late Manifestations

Late manifestations include any of the following **when an alternate explanation not found:**

- **Musculoskeletal system**

Recurrent, brief attacks (weeks or months) of objective joint swelling in one or a few joints, sometimes followed by chronic arthritis in one or a few joints.

Manifestations **not** considered as criteria for diagnosis include chronic progressive arthritis not preceded by brief attacks and chronic symmetrical polyarthritis.

Additionally, arthralgia, myalgia, or fibromyalgia syndromes alone are not criteria for musculoskeletal involvement.

- **Nervous system**

Any of the following, alone or in combination: Lymphocytic meningitis; cranial neuritis, particularly facial palsy (may be bilateral); radiculoneuropathy; or rarely, encephalomyelitis. Encephalomyelitis must be confirmed by showing antibody production against *B. burgdorferi* in the CSF, demonstrated by a higher titer of antibody in CSF than in serum. Headache, fatigue, paresthesia, or mild stiff neck alone are not criteria for neurologic involvement.

- **Cardiovascular system**

Acute onset, high-grade (2° or 3°) atrioventricular conduction defects that resolve in days to weeks and are sometimes associated with myocarditis. Palpitations, bradycardia, bundle branch block, or myocarditis alone are not criteria for cardiovascular involvement.

II. ACTIONS REQUIRED / PREVENTION MEASURES

- A. KENTUCKY DISEASE SURVEILLANCE REQUIRES ROUTINE NOTIFICATION:
Report to the local or state health department within 5 business days upon recognition of a case or suspected case.
- B. EPIDEMIOLOGY REPORTS REQUESTED:
 - 1. Kentucky Reportable Disease Form – EPID 200 (Rev. Jan/03).
 - 2. Lyme Disease Case Report Form - (CDC 52.60 REV. 1-91).
- C. PUBLIC HEALTH INTERVENTIONS / FOLLOW-UP:
 - Completion of the Lyme Case Disease Case Report Form to ascertain case status and to determine county of probable exposure.
 - Patient education as needed to minimize future tick exposure.

III. CONTACTS FOR CONSULTATION

- A. KENTUCKY DEPARTMENT FOR PUBLIC HEALTH, SURVEILLANCE AND HEALTH DATA BRANCH: 502-564-3418.
- B. KENTUCKY DEPARTMENT FOR PUBLIC HEALTH, COMMUNICABLE DISEASE BRANCH: 502-564-3261.

IV. RELATED REFERENCES

1. Chin, James, ed. LYME DISEASE. In: Control of Communicable Diseases Manual. 17th ed. Washington, DC: American Public Health Association, 2000: 302-306.
2. Pickering, LK, ed. Lyme Disease. In: 2000 Red Book: Report of the Committee on Infectious Diseases. 25th ed. Elk Grove Village, IL 2000: 374-379.